IT Unit 3

Topic 1

# Ch. 1 Organisations & Data Management

**Characteristics of data types, p 22**

**Elaborate under each of the following data types:**

1. Text, (string)

* Has a limit of 255 characters and can be letters, numbers and special characters

1. Numeric – integer, floating point

* These fields only allow numbers

1. Date

* Another variation of a numeric data type that is usually use to record days past on a project

1. Character

* This is text that only accept alphanumeric characters.

1. Boolean

* When data falls into two type of categories

**Databases and database terminology, p 23**

1. What is a database?

* A software tool used to hold and retrieve data

1. Explain the relationship between fields, records and tables.

* Table: A database table is composed of records and fields that hold data.
* Record: A record is composed of fields and contains all the data about one particular item in a database.
* Field: A field is part of a record and contains a single piece of data for the subject of the record.

1. Explain the purpose of the following objects in a database: forms, queries, reports & macros.

* Form: A database form show all or selected fields for one record in a attractive and easy to read format
* Queries: queries find records in a database according to a criterion you specify and are able to form new table from selected data from the other tables in a document.
* Report: A report presents data in an attractive format and is especially suitable for printing.
* Marcos: A macro is a tool that allows you to automate tasks and add functionality to your forms, reports, and controls

1. What is the purpose of SQL?

* Structure Query Language: it a specify language used in programming and designing for managing data held in a RDBMs

1. Distinguish between a flat file and a relational database? What are the advantages of using a relational data base?

* A flat file database only used one table as the source of data which is restricting where as a relational database use more than one table of information to make better query etc.

**Relational databases, p 25**

1. What does RDBMS refer to?

* Relational Database Management System

1. Explain with e.g. the following different types of relationships between tables in a relational database.
   1. One-to-one relationship

* Is used when a record in one table is connected to only one record in a second table.
  1. One-to-many relationship
* One record in the first table is connected to more than one record in a second table.
  1. Many-to-many-relationship
* Is used when a number of records in the first table is connected to a number of records in the second table.

1. What is meant by a foreign key?

* A common linking field: a key defined in a second table that refers to a primary key in another table.

**Creating an RDMS structure, p 26**

1. Why is it important to consider how to structure the data in a database? What needs to be considered?

* it important to plan this carefully in order to maximise the efficiency of a relational database.

1. What is the purpose of an entity relationship diagram? (go to p 28 to answer the following).

* Is used by database by designers to establish the interrelationship between different data elements

1. What are entities, use an e.g. from p 28, and how are they represented?

* A single person, place, or thing about which data can be stored

1. What are the attributes and how are they represented?

* Attributes are like fields on a table

1. How are relationships represented?

* On the diagram there are lines connecting the piece of data

1. What is the difference between the Chen and Bachman models of representing ERD’s?

* Chen is style like brain storm and is all spread out where as Bachman is neater